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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,220	11/20/2001	Terence J. Knowles	13051US03	6206

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EXAMINER

NGUYEN, KIMNHUNG T

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 01/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,220

Applicant(s)

KNOWLES ET AL.

Examiner

Kimnhung Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This application has been examined. The claims 1-20 are pending. The examination results are as following.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 9-14, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blouin (US patent 5977,867) in view of Kambara et al. (US patent 6,091,406)

Regarding claim 1, Blouin discloses in figures 1, and 7-10 that an acoustic wave switch (see touch screen may be any of analog acoustic, see abstract) comprising a substrate (13); a driver (3) and an acoustic cavity (see figure 2) generating an acoustic wave in the acoustic wave cavity wherein a touch on a touch surface of the acoustic wave cavity produces a detectable change in the acoustic wave (see column 2, lines 51-60); and a feedback mechanism (4) to provide tactile feedback to a user that a switch has been actuated by touch on the touch surface (see column 1, lines 48-62, and column 2, lines 51-56). However, Blouin does not disclose that the mesa or plate formed on the substrate that defines an acoustic wave cavity. Kambara et al. disclose an acoustic touch sensing device comprising a large substrate and the plate wave (mesa) may be dispersed over a region of the substrate, the plate-wave may be formed of material aluminum (see abstract,

see column 11, lines 27-34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement of using of aluminum such as plate-wave (mesa) over of the substrate as taught by Kambara et al. into the system having an acoustic wave switch of Blouin because this would be coated with an enamel with a relatively slow acoustic phase propagation velocity, thus supporting a love wave with high touch sensitivity (see column 11, lines 35-39).

Regarding claims 10 and 19, Blouin and Kambara et al. discloses in figures 1, and 7-10 that an acoustic wave switch (see touch screen may be any of analog acoustic, see abstract) comprising a substrate (13); a driver (3) and an acoustic cavity (see figure 2) generating an acoustic wave in the acoustic wave cavity wherein a touch on a touch surface of the acoustic wave cavity produces a detectable change in the acoustic wave (see column 2, lines 51-60) as discussed above. Furthermore, Kambara et al. disclose in figure 2, a transducer (23, see column 3, lines 21-28) coupled to the mesa (see panel 21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement of using of the transducer as taught by Kamabara et al. into the system having acoustic wave switch of Blouin because this would for transducing a bulk wave in the substrate propagating through the substrate along an axis intersecting of the surface, and wherein energy of the bulk wave is coupled to a wave having a converted wave mode with appreciable energy at the surface and propagating along the surface (see abstract).

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Regarding claim 20 is dependent upon claim 1, and is rejected on the same reasons of claim 1. Furthermore, Blouin discloses wherein the feedback member includes an electrically actuated member mounted on back surface of the substrate, the member having a striker that is moved against the substrate to strike the substrate when the member is actuated in response to a detectable change in the acoustic wave indicating a touch on a touch surface (see column 1, lines 48-62, and column 2, lines 51-56).

Regarding claims 2-5 and 9, 11-14 are dependent upon claims 1 and 10, and rejected on the same reasons set forth in claims 1, 10 and 19. However, Blouin does not disclose that wherein the feedback mechanism includes a member that overlies the touch surface and includes a deformable dome. Kambara et al. disclose in figure 2 a panel curved that overlies the touch surface and a deformable dome (panel 21 curved, see column 3, lines 21-28). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of using the panel curved that overlies the touch surface as taught by Kambara et al. into the device of Blouin as discussed above because this would provide the deformation of the elastomeric substrate absorbing or damping acoustic wave energy like a finger touch on the acoustic wave touch sensor.

3. Claims 6-8 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blouin (SU patent 5,977,867) and Kambara et al. (US patent 6,091,406) as applied to claims 1 and 10 above, and further in view of Jaeger et al. (US patent 6,606,081) and McLoone et al. (US patent 6,556,150).

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Blouin and Kambara et al. disclose an acoustic wave switch as discussed above.

However, they do not disclose at least one magnet to hold the member in an unactuated position until a force acting on the member actuates the switch, and the magnet returning the member to an unactuated position when the force is removed, and wherein the member includes a rocker having a pivot with the absorber mounted on the rocker on one side of the pivot and the magnet mounted on the rocker on another side of the pivot.

Jaeger et al. disclose in figures 11-12, a display device or touch screen device (81) is provided with a cover glass and supported by a magnet (84) (see column 7, lines 48-53).

McLoone et al. disclose in figures 16-17, a computer input device that comfortably supports the hand of the user while the thumb and finger are associated with buttons carried on the device having a rocker (148) that is pivotally coupled to the housing, and the rocker is biased to center neutral position (see column 8, lines 63-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of using a support member of magnet as taught by Jaeger et al.

and the device having a rocker (148) that is pivotally coupled to the housing, and the rocker is biased to center neutral position as taught by McLoone et al. into the system of Blouin and Kambara et al. because this would be slidably secured to the bar, and translation of the bar along the track combined with translation of the electromagnet along the bar, and selected location corresponding to a desired placement of the controller device (see Jaeger et al., column 3, lines 8-12), and for the rocker, it would be pivoted respectively forward or backward against its biasing to place the rocker in a forward

position or backward position, and such an actuation will cause the input device to send an appropriate signal to the computer (see McLoone et al., see column 9, lines 1-9).

Response To Arguments

4. Applicant's arguments filed on 5-13-04 have been fully considered but they are not persuasive.

Applicant argues that Blouin does not teach "a mesa formed on the substrate"; "an acoustic wave cavity generating an acoustic wave cavity"; and "wherein a touch on a touch surface of the acoustic wave cavity produces a detectable change in the acoustic wave in the cavity". However, examiner respectfully disagrees with argument because Bouin teaches an acoustic wave switch comprising a substrate (13), Blouin does not teach a mesa formed on the substrate. Kambara et al. ~~teaches~~ teaches a mesa formed on the substrate (see plate wave or mesa may be dispersed over a region of the substrate (see abstrate, see col. 11, lines 27-34). Blouin discloses "an acoustic wave cavity generating an acoustic wave cavity"; and "wherein a touch on a touch surface of the acoustic wave cavity produces a detectable change in the acoustic wave in the cavity" (see the touch screen may be any of the analog acoustic operated device, see abstract, and generated a mechanical vibration sensed by the user when touch screen is touch, see col.2, lines 51-60). Therefore, the combination of Blouin and Kambara et al. are satisfied for its intended purpose. For these reasons, the rejection are maintained.

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5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimnhung Nguyen whose telephone number (703) 308-0425.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D. C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only).

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Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive,
Arlington, VA Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose telephone
number is (703) 306-0377.

Kimnhung Nguyen
January 15, 2005



ALEXANDER EISEN
PRIMARY EXAMINER